

ABSTRACT OF THE DISCLOSURE

METHOD AND APPARATUS FOR NOISE

An apparatus for creating an appearance of texture in a computer image. The apparatus includes a computer. The apparatus includes a mechanism for inputting a point $\{x_d\}$ in D-dimensional geometric space RD described via D M bit quantities i_d and D N bit quantities u_d , where i_d are M bit representations of greatest integers not $> x_d$ and u_d are N bit representations of remainders $(x_d - i_d)$, where M and N are integers ≥ 4 , in the computer. The apparatus includes a mechanism for computing a pseudo-random hash value at each vertex of a unit cube C surrounding the point. The apparatus includes a mechanism for computing a contribution from each vertex using the hash-value. The apparatus includes a mechanism for combining with the computer the contribution from each vertex into a single interpolated result. A method for creating an appearance of texture in a computer image. The method includes the steps of inputting a point $\{x_d\}$ in D-dimensional geometric space RD described via D M bit quantities i_d and D N bit quantities u_d , where i_d are M bit representations of greatest integers not $> x_d$ and u_d are N bit representations of remainders $(x_d - i_d)$, where M and N are integers ≥ 4 in a computer. Then there is the step of computing a pseudo-random hash value at each vertex of a unit cube C surrounding the point. Next there is the step of computing a contribution from each vertex using the hash-value. Then there is the step of combining with the computer the contribution from each vertex into a single interpolated result.